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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,540

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ATKINSON

1616

7590

07/24/2008

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EXAMINER

HAUPT, KRISTY A

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,540	<b>Applicant(s)</b> MAMIGONIAN, HRAND MAMI	
	<b>Examiner</b> Jared J. Fureman	<b>Art Unit</b> 2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 13-17, 19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/17/2005</u> .                                              | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Applicant's election with traverse of Group I, claims 1-12 and 18, in the reply filed on May 01, 2008 is acknowledged. The traversal is on the ground(s) that the invention is unitary, the office action does not state reasons for the requirement or the classification of the groups (see page 1 of the election filed on 05/01/2008). This is not found persuasive because groups I, II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding technical feature. For example, group I relates to a mechanically operable electrical device including a transmitter electrode, a receiver electrode and a moveable conductive element or moveable ground electrode wherein the moveable conductive element or moveable ground electrode is moved to a position that reduces capacitive coupling (see independent claims 1 and 18). Group II relates to a code reading apparatus having a plurality of capacitor devices each including a transmitter electrode and a capacitance coupled receiver electrode, the code reading device configured to receive one or more conductive regions of a coded object such that the capacitance coupling between the electrodes or one or more capacitor devices is modified (see independent claim 13). Group III relates to a document interpreting system comprising location detecting means (see independent claim 19). Group I requires that the capacitance be lowered when the movable conductive element or movable ground electrode is moved to its second position. Group II does not require that the capacitance is lowered when the conductive element is present (the capacitance could be increased, for example). Thus, group II does not require the

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structure required by group I. Group III does not require the mechanically operable electrical device of group I or the code reading apparatus of group II. Therefore, there is no single general inventive concept or special technical feature common to each group.

The office action did state the reasons for the requirement, see paragraph 2 on page 2 of the restriction mailed on April 01, 2008.

There is no requirement to present classification of the groups for national stage restriction in 35 U.S.C. 371 applications.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13-17, 19 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on May 01, 2008.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-9, 11, 12 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Tyler et al (US 4,379,287). Tyler teaches:

Re claim 1: A mechanically operable electrical device, comprising a transmitter electrode (drive plate 11A or 11A'; figures 3 and 4), a receiver electrode (sense plate 11B or 11B'; figures 3 and 4) and a moveable conductive element (a user's finger, for example; see column 2, lines 56-60 and column 3, lines 17-24), wherein:

said device is configured such that said conductive element is moveable to a first position remote from said electrodes such that said transmitter electrode is capacitance coupled to said receiver electrode (the user is not touching the touch plate 10 and the drive plate 11A or 11A' is capacitance coupled to the sense plate 11B or 11B'; see column 2, lines 53-63 and column 3, lines 12-24 and 37-48); and

said conductive element is moveable to a second position closer to said electrodes such that said capacitance coupling is reduced (the user touches the touch plate 10 and thereby lowers the level of the signal at sense plate 11B or 11B'; see column 2, lines 53-63 and column 3, lines 12-24 and 37-48).

Re claim 3: A mechanically operable electrical device according to claim 1, wherein said conductive element is continuously grounded during use (the user is continuously grounded).

Re claim 4: A mechanically operable electrical device according to 1, wherein said transmitter electrode and said receiver electrode are located in the same plane (the drive plate 11A and sense plate 11B are located in the same plane on sheet 13; see figure 3).

Re claim 5: A mechanically operable electrical device according to claim 1, wherein said conductive element is not electrically connected (when the user is not touching the touch plate 10, the user is not electrically connected to the device).

Re claim 6: A mechanically operable electrical device according to claim 1, wherein said receiving electrode is positioned on a separate parallel plane to said transmitting electrode (the sense plate 11B' is positioned on a separate parallel plane to the drive plate 11A'; see figure 4).

Re claim 7: A mechanically operable electrical device according to claim 1, wherein said conductive element in said second position is located between said transmitter electrode and said receiver electrode (when the user is touching the touch plate 10, their finger will be located over the area between the drive plate 11A and the sense plate 11B; see figure 3).

Re claim 8: A mechanically operable electrical device according to claim 1 wherein said transmitter electrode is formed on a printed circuit board (sheet 13 serves as a printed circuit board; see figures 1, 3, column 2, lines 26-36 and 47-52).

Re claim 9: A mechanically operable electrical device according to claim 8, wherein said printed circuit board is a membrane which forms part of a position sensing device (the

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flexible sheet 13 is a membrane which forms part of a position sensing device that senses the position of the user's touch on the switches 12).

Re claim 11: A mechanically operable electrical device according to claim 1, wherein said device is configured as a manually operable switch (switch 12 is manually operated by the user touching the touch plate 10).

Re claim 12: A mechanically operable electrical device according to claim 11, wherein said device further comprises one or more additional pairs of transmitter electrodes and receiver electrodes (figure 1 shows two pairs of drive plates 11A and sense plates 11B), and said conductive element is moveable by rotation to other positions in which it is closer to one of said pairs of electrodes (the user's finger is rotatable between the pairs of drive and sense plates).

Re claim 18: A mechanically operable electrical device, comprising a transmitter electrode (drive plate 11A or 11A'; figures 1, 3 and 4); a receiver electrode (sense plate 11B or 11B'; figures 1, 3 and 4) capacitance coupled to said transmitter electrode; a conductive element (touch plate 10; figures 1, 3 and 4) adjacent to said transmitter electrode and said receiver electrode; and a ground electrode (a user's finger, for example; see column 2, lines 56-60 and column 3, lines 17-24), wherein

said ground electrode is moveable between:

(a) a first position in which said conductive element is not electrically grounded such that capacitance coupling between said transmitter electrode and said receiver electrode is relatively high (the user is not touching the touch plate 10 and the drive plate 11A or 11A' is capacitance coupled to the sense plate 11B or 11B'; see column 2, lines 53-63 and column 3, lines 12-24 and 37-48); and

(b) a second position in which said conductive element is electrically grounded whereby said capacitance coupling is reduced (the user touches the touch plate 10 and thereby lowers the level of the signal at sense plate 11B or 11B'; see column 2, lines 53-63 and column 3, lines 12-24 and 37-48).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tyler et al in view of Wood et al (GB 1 582 640, cited by applicant).

The teachings of Tyler et al have been discussed above.

Tyler et al fails to specifically teach wherein said device comprises a ground electrode which is grounded in use to electromagnetically shield said receiving electrode.



Wood et al teaches a device (figures 1 and 3) including a ground electrode (earth screen 15, figures 1 and 3) which is grounded in use to electromagnetically shield receiving electrode (conductive region 12, figures 1 and 3) (also see page 3, lines 70-89 and page 4, lines 7-20).

In view of Wood et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the device as taught by Tyler et al, wherein said device comprises a ground electrode which is grounded in use to electromagnetically shield said receiving electrode, in order to help prevent electromagnetic signals from affecting the device and causing incorrect operation.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tyler et al in view of Bartels et al (US 5,159,181).

The teachings of Tyler et al have been discussed above.

Tyler et al fails to specifically teach said conductive element is one of a number of conductive elements located on a portable object to define an identifying code; and said portable object is configured to be manually inserted between said transmitter electrodes and said receiver electrodes, whereby the capacitance coupling between each transmitting electrode and the corresponding receiver electrode depends upon the presence of a conductive element on said portable object.

Bartels et al teaches a device including a conductive element, wherein the conductive element (code bars 3; figures 1 and 13) is one of a number of conductive elements (see figure 1) located on a portable object (card 1; figures 1 and 13) to define

an identifying code; and said portable object is configured to be manually inserted between transmitter electrodes and receiver electrodes (electrodes 7g; figure 13), whereby the capacitance coupling between each transmitting electrode and the corresponding receiver electrode depends upon the presence of a conductive element on said portable object (see figures 1, 13; column 1, line 56 - column 2, line 19 and column 8, line 59 - column 9, line 4).

In view of Bartels et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the device as taught by Tyler et al said conductive element is one of a number of conductive elements located on a portable object to define an identifying code; and said portable object is configured to be manually inserted between said transmitter electrodes and said receiver electrodes, whereby the capacitance coupling between each transmitting electrode and the corresponding receiver electrode depends upon the presence of a conductive element on said portable object, in order to allow correct entry of more complex codes than would be possible with a user manually entering the code by touch.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Al Morimoto (US 2003/0222660 A1) and Davidson et al (US 3,044,694) both teach capacitive switch devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared J. Fureman whose telephone number is (571)

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272-2391. The examiner can normally be reached on 8:00 am - 5:30 PM M-T, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jared J. Fureman/  
Primary Examiner, Art Unit 2876

July 18, 2008